pilot laser beam is again measured in step **116** and examined again in step **112** as to the detection of an object in the safety area.

FIG. **13** shows a flow chart of a combined passive laser safety device which is provided, in particular, for professional use. The sequence of the safety programme is carried out by a combination of two sensors, i.e. a pyroelectric sensor and a thermopile sensor.

In this regard, step **120** again involves switching-on the laser projector, and step **122** the switching-off of the modulators, in order to blank the laser beam **5** for displaying the image. By contrast to the example of FIG. **12**, a learning phase is provided in step **124**, for measuring the temperature in the projection space and for tuning the pyroelectric motion detectors. In this regard, in step **126**, the control switches back to step **122** if a movement was detected, such that the so-called learning phase recommences in step **124** with the switched-off laser beam **5**. In the other case, an interrogation is carried out, via the step **128**, for an increased room temperature. If the room temperature is elevated during the measuring process, the control also switches back to step **122**, such that the learning phase in step **124** recommences with switched-off laser beam **5**. If the room temperature has remained constant, the control then measures reference values for the room temperature, for comparing with sensor signals. In this regard, movements are detected via the pyroelectric sensor. In the absence of a motion signal, the control switches to step **130** in which the modulators are switched on for modulation of the laser beam **5**. This means, that image-displaying can now commence. If the motion detector detects a movement in the safety area during step **132**, the control is returned to step **122**. This means that the modulators are switched off, and the motion detectors and the room temperature are newly determined in step **124** under supervision of the personnel, for measuring the temperature in the projection space. Otherwise, the room temperature is measured in step **134**, and the pyroelectric sensor for detecting movement is adapted to the current room temperature. The control then again switches to step **130**, whereupon the motion detector is again interrogated in step **132**, etc.

The above exemplified embodiments show the wide range of possibilities for providing a safety device of the aforementioned kind. In particular, various means have been shown for ensuring the greatest possible degree of safety by additional circuitry, in particular, also of additional sensors. The monitoring in partial regions is, in particular, particularly advantageous in the practical sphere for television projections, since persons entering the safety area are visible on the projection screen only in the form of a shadow image. The pictorial effect is thus not substantially affected.

While the foregoing description and drawings represent the present invention, it will be obvious to those skilled in the art that various changes may be made therein without departing from the true spirit and scope of the present invention.

What is claimed is:

**1**. An arrangement for displaying images on a projection screen comprising:

a laser which emits a laser beam;

deflecting means for deflecting the laser beam;

image-generating means connected to a controlling device for controlling said laser and said deflecting means;

said image-generating means being switchable in two operating modes, the first operating mode being the standard operating mode for projecting, and the second being an operating mode in which the laser radiation is harmless to a person disposed in the region to which the laser has access; and

a safety circuit being provided and comprising at least one sensor by which a monitored region, which is larger than the region accessible to the laser, between said image-generating means and the projection screen is monitored as to the presence of objects, wherein the image-generating means is switchable into the second operating mode by said safety circuit, in the event of an object being present.

**2**. The arrangement according to claim **1**, wherein the monitored region comprises the region which is accessible to the laser and an edge region which is provided for the timeous detection of objects which are moving toward the danger zone.

**3**. The arrangement according to claim **2**, wherein the edge region is greater than 10% in each deflection predetermined by the deflecting means for the laser light beam.

**4**. The arrangement according to claim **1**, wherein at least one sensor is a sensor for detecting changes in the electromagnetic radiation emanating from the monitored region.

**5**. The arrangement according to claim **1**, wherein at least one sensor is a sensor for detecting heat radiation emanating from the monitored region.

**6**. The arrangement according to claim **5**, wherein the heat radiation is in the wavelengths between 700 nm and 14 $\mu$m.

**7**. The arrangement according to claim **1**, wherein at least one sensor is a motion detector based on the pyroelectric principle.

**8**. The arrangement according to claim **1**, wherein at least one sensor is a thermopile sensor for contactless temperature measuring.

**9**. The arrangement according to claim **1**, wherein a plurality of direction-sensitive sensors are provided for monitoring, in each case, partial regions of the monitored region.

**10**. The arrangement according to claim **9**, wherein the direction-sensitive sensors are arranged as a flat matrix.

**11**. The arrangement according to claim **10**, wherein the sensors are light-sensitive elements of a CCD matrix, an optical means which provides a planar projection of objects in the monitored region on said CCD-matrix, being provided for producing the direction sensitivity.

**12**. The arrangement according to claim **1**, wherein at least one of the sensors is designed to detect acoustic waves emanating from the monitored region.

**13**. The arrangement according to claim **1**, wherein at least one transmitter is provided for radiating at least one of electromagnetic and acoustic waves, the frequency and intensity of which are harmless to persons into the monitored region, and at least one sensor is provided for detecting these waves.

**14**. The arrangement according to claim **13**, wherein a pilot laser radiating in the non-visible infrared wavelength range from 700 nm to a maximum of 14 $\mu$m is provided as the transmitter.

**15**. The arrangement according to claim **14**, wherein the radiation of the pilot laser is superimposed, coaxially and/or divergently, upon the laser beam for projection.

**16**. The arrangement according to claim **14**, wherein the pilot laser beam is adapted to be rastered, by means of a deflecting means, across a deflecting region which is greater than that for the image display.

**17**. The arrangement according to claim **14**, wherein a filter for a wavelength of the pilot laser is connected upstream of the at least one sensor.